SOUTHEAST ALASKA WATERSHED COALITION

Improving Fish Habitat on Tribal Lands in the Ward Creek Watershed, Ketchikan, Alaska, 2025

Final Report

The Ward Creek habitat improvement project assessed and restored fish habitat in the upper Ward Creek watershed near Ketchikan. The project is a partnership between the Southeast Alaska Watershed Coalition (SAWC), Cape Fox Corporation (CFC), and the Ketchikan Indian Community (KIC), with assistance from the U.S. Forest Service. SAWC biologists are working with the KIC Indigenous stewardship crew to restore fish habitat on lands owned by CFC, an Alaska Native Corporation based in Ketchikan.

Accomplishments to date include:

1. Refining fish habitat improvement designs for a tributary that supports coastal cutthroat trout in the upper watershed in May
2. Installing large woody material (i.e., trees) in stream channels using hand tools to create fish habitat and restore other natural channel functions in June and July
3. Mapping fish habitat upstream of fish barrier culverts in May and October
4. Completion of a topographic survey and geomorphic assessment at two culvert crossings in a former logging road that block or impede trout and char in October. These data are currently informing designs for new stream crossings structures that will restore fish passage at each site.
5. A comprehensive survey of fish habitat attributes in the mainstem of upper Ward Creek in July and November

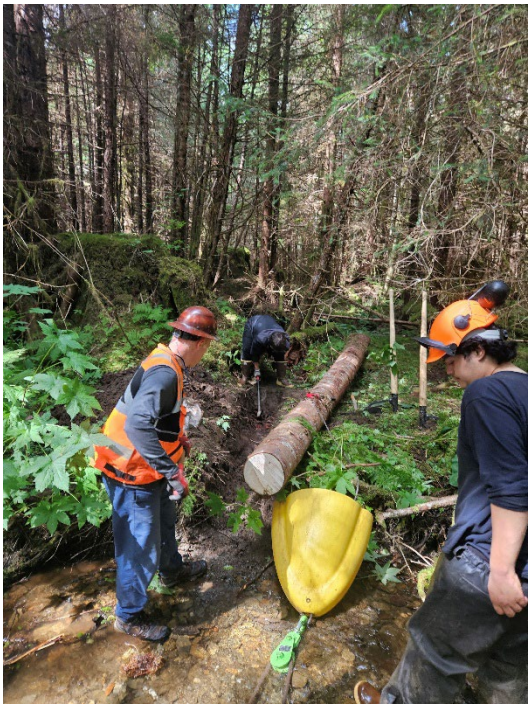
   SAWC and KIC personnel spent a day on Upper Ward Creek with staff from Archer Advertising in June. The partners installed trees in the channel to improve trout habitat. Also present were staff from the U.S. Forest Service (USFS) and Hydaburg Cooperative Association. See video here

   Restoration work continued in July. KIC, SAWC, and USFS staff placed more trees into the stream to improve fish habitat and restore other natural channel functions. Fish habitat mapping, a habitat survey, and fish passage improvement survey work were completed in late October.

Partners dig a trench in the stream bed and bank prior to placing a log across the channel to form a pool in June.

The log and new pool in October.

Members of Archer Advertising, SAWC, KIC, USFS, and Hydaburg Cooperative Association after a day restoring fish habitat in Ward Creek in June.

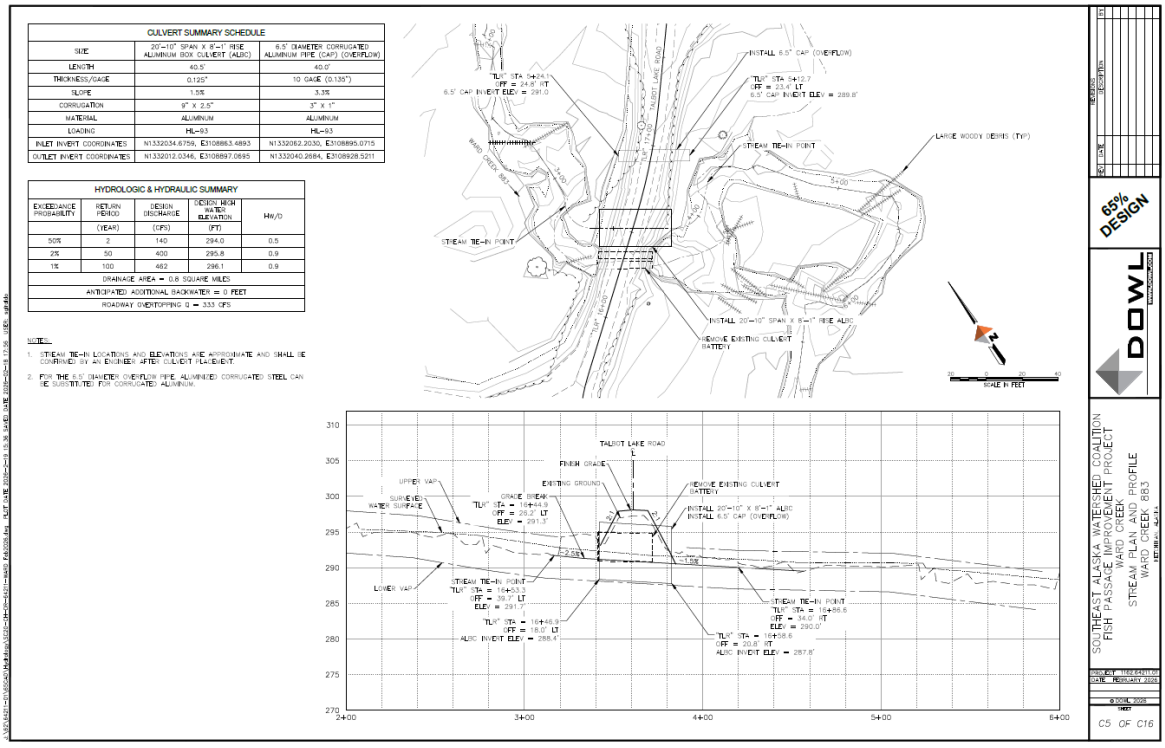


A trench in the bank is prepared to receive a log in July. The log will extend into the channel to promote scour, gravel sorting, and pool formation improving habitat complexity for trout and char.

KIC crew members celebrate placement of a large log into the stream channel and bank in July.

KIC, USFS, and SAWC staff after a week restoring fish habitat in Upper Ward Creek in July.

Engineering firm staff conduct a topographic assessment at a fish barrier culvert crossing in upper Ward Creek in October. Survey and geomorphic assessment data will be used to design a bridge to replace barrier culverts at this site and a second site nearby.



CULVERT SUMMARY SCHEDULE

SIZE	20'-10" SPAN X 8'-1" RISE ALUMINUM BOX CULVERT (ALBC)	6.5' DIAMETER CORRUGATED ALUMINUM PIPE (CAP) (OVERFLOW)
LENGTH	40.5'	40.0'
THICKNESS/GAGE	0.125"	10 GAGE (0.135")
SLOPE	1.5%	3.3%
CORRUGATION	9" X 2.5"	3" x 1"
MATERIAL	ALUMINUM	ALUMINUM
LOADING	HL-93	HL-93
INLET INVERT COORDINATES	N1332034.6759, E1308863.4893	N1332062.2030, E1308895.0715
OUTLET INVERT COORDINATES	N1332012.0346, E1308897.0895	N1332040.2684, E1308928.5211

HYDROLOGIC & HYDRAULIC SUMMARY

EXCEEDANCE PROBABILITY	RETURN PERIOD (YEAR)	DESIGN DISCHARGE (CFS)	DESIGN HGL WATER ELEVATION (FT)	HW/D
50%	2	140	294.0	0.5
2%	50	400	295.8	0.9
1%	100	462	296.1	0.9
DRAINAGE AREA = 0.8 SQUARE MILES				
ANTICIPATED ADDITIONAL BACKWATER = 0 FEET				
ROADWAY OVERTOPPING Q = 333 CFS				

NOTES:
1. STREAM TIE-IN LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY AN ENGINEER AFTER CULVERT PLACEMENT.
2. FOR THE 6.5' DIAMETER OVERFLOW PIPE, ALUMINIZED CORRUGATED STEEL CAN BE SUBSTITUTED FOR CORRUGATED ALUMINUM.

The engineering survey supported by this grant is being used to design two fish passage improvement crossing structures in the upper Ward Creek watershed. 65% designs for one of the sites is shown above.

The upper mainstem of Ward Creek during a comprehensive fish habitat survey in October. Riparian logging eliminated a critical source of habitat-forming large woody material along a half-mile reach of stream. Existing large wood in the channel is rare and will degrade without replacement until old-growth forest conditions recover in more than 200 years. Survey data will be used to inform a restoration plan that will place trees in the channel to restore fish habitat.